



THE EFFECT OF PHYSICAL ACTIVITY ON RESILIENCY AND PRODUCTIVITY AND REDUCING STAFF ABSENCE BASED ON PUBLIC HEALTH OF UNIVERSITY'S FEMALE STAFF

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ABSTRACT

The purpose of this research was to study the effect of 12-week physical activity on resiliency, productivity and reducing staff absence based on public health of the female staff of Islamic Azad University. In this paper, we used the pretest-posttest quasi-experimental study designs. The method of this research was semi-experimental and carried out having pre-test and post-test with pre-test – post-test design with two control and experimental groups. The population of the research was consisted of 94 individuals among whom, the female staff of the university out of 94 academic staff, 48 persons were randomly selected and assigned to either of the control or experimental groups each containing 24 subjects. The tools for gathering data were the resiliency inventory of Connor and Davidson (2003) with Cronbach's alpha of $r=0.90$ and validity of $r=0.84$. The other questionnaire used for the productivity of workplace was and productivity inventory of Hang (2008), its reliability using reliability was $r=0.71$ and its validity was $r=0.60$ were used in order to measure the study variables. To test hypotheses independent t test and Mann Whitney test were used at $\alpha=0.05$ to analyze the data. The results showed indicated that 12-week physical activity had significant effect on resiliency and productivity of the staff subjects. But the 12-week physical activity has not had a significant while the positive effect on reducing staff absence. It is recommended that managers stimulate regular physical exercise to all staff in organizations and to establish practical plans to provide physical activities, especially female staff whom suffering from special restrictions, can take advantages of this plan (productivity and resiliency).

Keywords: Resiliency; Productivity; Physical Activity; Reducing staff absence

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EL EFECTO DE LA ACTIVIDAD FÍSICA SOBRE LA CAPACIDAD DE RECUPERACIÓN Y LA PRODUCTIVIDAD Y LA REDUCCIÓN DE LA AUSENCIA DEL PERSONAL BASADA EN LA SALUD PÚBLICA DEL PERSONAL FEMENINO DE LA UNIVERSIDAD

ABSTRACTO

El propósito de esta investigación fue estudiar el efecto de la actividad física de 12 semanas en la resiliencia, la productividad y la reducción de la ausencia del personal basada en la salud pública del personal femenino de la Universidad Islámica Azad. El método de esta investigación fue semi-experimental y llevado a cabo con pre-test y post-prueba con pre-test-post-test de diseño condos grupos de control y experimentales. La población de la investigación consistió en 94 individuos entre los cuales el personal femenino de la universidad de 94 miembros del personal académico, 48 personas fueron seleccionadas al azar y asignadas a cualquiera de los grupos control o experimental, cada una con 24 sujetos. Las herramientas para recopilar datos fueron el inventario de resiliencia de Connor y Davidson (2003) con el alfa de Cronbach de $r = 0,90$ y validez de $r = 0,84$. El otro cuestionario utilizado para la productividad del lugar de trabajo y el inventario de productividad de Hang (2008), su fiabilidad con fiabilidad fue $r = 0,71$ y su validez $r = 0,60$ se utilizaron para medir las variables del estudio. Para probar las hipótesis independientes t test y Mann Whitney prueba se utilizaron en $\alpha = 0,05$ para analizar los datos. Los resultados mostraron que la actividad física de 12 semanas tenía un efecto significativo en la resiliencia y la productividad de los sujetos del personal. Pero la actividad física de 12 semanas no ha tenido un significativo mientras que el efecto positivo en la reducción de la ausencia del personal. Por lo tanto, de manera concluyente, se sugiere que los planificadores y gerentes en su altamente recomendado para el reclutador de ejercicio físico regular para todo el personal en las organizaciones utilizan planes prácticos en la forma de proporcionar actividades físicas al personal, especialmente el personal femenino que sufren de restricciones especiales, De este plan con el fin de promover la mayor productividad del personal y la resiliencia que en consecuencia conducen a mejorar y aumentar la productividad en las organizaciones.

Palabras clave: Resiliencia; Productividad; Actividad física, Reducción de la Ausencia Del personal

O EFEITO DA ATIVIDADE FÍSICA NA RESILIÊNCIA, PRODUTIVIDADE E REDUÇÃO DA AUSÊNCIA DE PESSOAL COM BASE BASEADO NA SAÚDE PÚBLICA DE FUNCIONÁRIAS UNIVERSITÁRIAS

RESUMO

O objetivo desta pesquisa foi estudar o efeito da atividade física de 12 semanas sobre a resiliência, a produtividade e a redução da ausência da equipe com base na saúde pública de mulheres da Universidade Azad Islâmica. Neste trabalho, utilizamos estudos quase-experimentais. O método desta pesquisa foi semi-experimental e realizado com pré-teste e pós-teste com dois grupos controle e experimental. A população da pesquisa consistiu em 94 indivíduos da equipe acadêmica feminina da universidade. 48 pessoas foram selecionadas aleatoriamente e atribuídas a qualquer dos grupos de controle ou experimental contendo 24 indivíduos. As ferramentas para coleta de dados foram o inventário de resiliência de Connor e Davidson (2003) com alfa de Cronbach de $r = 0,90$ e validade de $r = 0,84$. O outro questionário utilizado para a produtividade do local de trabalho e o inventário de produtividade do Hang (2008), sua confiabilidade usando confiabilidade foi $r = 0,71$ e sua validade foi $r = 0,60$ foram utilizados para medir as variáveis do estudo. Para testar o teste t independente de hipóteses e o teste de Mann Whitney foram utilizados em $\alpha = 0,05$ para analisar os dados. Os resultados mostraram que a atividade física de 12 semanas teve efeito significativo na resiliência e na produtividade dos sujeitos da equipe. Mas a atividade física de 12 semanas não teve um significativo, enquanto o efeito positivo na redução da ausência do pessoal. Portanto, recomenda-se que os gerentes estimulem o exercício físico regular de todas as equipes da organização e que estabeleçam planos práticos para estimular atividades físicas, especialmente para as mulheres que têm necessidades específicas e podem tirar vantagens disso (produtividade e resiliência).

Palavras-chave: Resiliência; Produtividade; Atividade Física; Redução da Ausência de Pessoal

INTRODUCTION

Daily physical activity includes walking, going up and down the stairways, cleaning and etc. on the other hand structural physical activities are performed during specific time lengths with the aim of improvement of health or obtaining physical readiness. These activities include sports such as swimming, running and cycling. These sports are accompanied by several health-related advantages and could guide employees towards obtaining hygienic recommendations (Tsarinas et al. 2013). Types of physical activity differ based on intensity and the level of required efforts for accomplishment of tasks. In this sense, based on the level of consumption of oxygen, physical activities are divided into three groups, namely as light, medium and intense physical activities (Caspersen, Powell and Christenson; 1985). Regular physical activity improves human body's immune system and helps with preventing several diseases including cardiovascular diseases, type two diabetes and obesity. In addition, physical activity improves mental health, inhibits depression and results in higher positive self-confidence (Ozonoff et al. 1996). Today, global companies seeking to implement wellness programs aimed at increasing physical activity within the organization and employees. According to the World Health Organization, if the staff on average spend a significant amount of their work time behind the desk and be inactive are at an increased risk of developing chronic diseases (Batman, Cartwright, 2011). One of the important goals of World Health Organization about increasing the physical activity level of employees is awaking people from the importance their personal health during work by means of behavioral challenges and personal habits (Gibbs, Cartwright, 2010).

The World Health Organization is a pioneer in terms of opposing lack of physical activity. This organization has announced the former as the fourth main cause of fatalities. In other words, lack of physical activity accounts for 3.2 percent of annual fatalities. On the other hand, the WHO emphasizes that lack of physical activity is the main cause of 21-25% of intestinal and breast cancers; 27% of diabetes and almost 30 percent of heart diseases. This content shows that regular physical activity is crucial for both quality and quantity of lives of people. Physical activity should be accepted as the foundation of a healthy life style. It is also recommended during spare times for having more active behaviors both at work and outside the work environment.

Also some scholar's have shown simple programs to increase the activity in the workplace and provided recommendations such as walking up the stairs, sometimes get up and stand, walk and relax during short interruptions, etc. (Emmons, 1999; Coulson, McKenna, Field 2008; The World Health Organization, 2002).

Resilience is defined as a dynamic process during which people show positive adaptive behaviors when facing psychological traumas. Resilience is a bi-dimensional construct that is initially associated with occurrence of traumas and later, with positive adaptive consequences against them. Traumas point to negative consequences related to negative living conditions including poverty and other life crises.

About human behavior, resilience considered often as a feature associated with the character, personality and ability to fight. Resilience is the capacity, flexibility; ability to control or back to normal after dealing with failure or severe challenge (Waller, 2001). Given that today's workers and companies of the organizations and companies are

experiencing many jobs through their work life, the significantly tolerate more stress and mental problems in this way (Coom, 2012). Today the surface increase of stress and reduce the recovery time, to enhance the resiliency of employees, is a very important work. About human behavior, resilience considered often as a feature associated with the character, personality and ability to fight. Resilience is the capacity, flexibility; ability to control or back to normal after dealing with failure or severe challenge (Waller, 2001).

There is a common belief in the development of resilience that physical activity has a positive effect on reducing depression and stress disorders but so far few researches have been done in the field of physical activity and resiliency. . But it is not clear how the research could identify the issue about staff. Now one of the most valuable findings of researchers is that providing education and necessary skills leads to increasing resiliency in the people and it seems that resiliency can be searched in the components that have essential role in its continuity, meanwhile we can refer to sport and physical exercises such that physical activity can be as a protective mechanism against mental health problems and other psychological vulnerabilities (Coom, 2012).

Considering that human resources is one of the most important force in organizations, and since man can improve the quantity and quality of their work, provide new plans and solve its problem with its creativity and increase its work force and finds the strategy of reducing costs and it seem that it is the only factor that can create changes in itself and its surrounding. Obviously, the growth of employees and their productivity depends on the integrity of the character and his life stream. Productivity is maximizing using the resources, human resources, facilities, etc. with scientific methods, and reducing the production costs, expand markets, increase employment and improve living standards such that be useful for worker, management

and all consumers (Japan productivity center (JPC), 1995).

Some studies have elaborated on indices of presence and absence in order to investigate occupational or job efficiency. The most prevalent index for job efficiency however, is absence. This absence is defined as amount of loss of work time due to sickness or other physical and or mental conditions. It has been approximated that this issue costs 468 dollars per year for every employee. Every year, low rates of efficiency are associated with a 21000 dollar cost for small organizations while for larger organizations; this number rises to 2.5 billion dollars (Goshen, 2014). In addition to absence rates, the present study has also considered for the effects of physical activity on reduction of sick leaves and absences. Studies have shown that employees who spend long times sitting behind their desks remaining inactive and devoting less amount of time to sports and physical activity during their spare times have higher rates of absence in addition to lower rates of occupational efficiency (Jans, Proper, Hildebrandt; 2007).

The evidence suggests that physical activity can improve health status and increase the productivity and reduce Staff absenteeism. A group of studies has shown a positive correlation between productivity and physical activity for leisure time of employees (Curry, Beaudoin, Mackinnon, Gray, 2012). In this regard Curry et al, 2012 stated that managers and planners that provide physical activities in the form of plans and programs for staff outside and inside organizational environment can have many benefits. These benefits include increase productivity and job performance, cost-effectiveness, return on investment, increase the presence, and reduce absenteeism, turnover, reduced sick leave, disability, in addition to items such as improving brand of the company.

RESEARCH QUESTION

At present time, one of the most important topics in the companies and enterprises is the influential factors in increasing resiliency of the staff, due to reducing mental stresses and intellectual problems of human resources who are of the most important human resources. Studies have shown that physical and mental health of individuals can be a great major step in improving job performance and productivity, and the quality and quantity of the work. On the other hand, participation of employees in physical activity programs has been known as a suitable way for primary prevention of many diseases. Therefore, due to the importance of the mentioned topics, the main problem of the research is as follows:

1. whether if by participating in the programs of physical activities, it is possible to improve the resiliency of the people?

2. Do participating of staff in the programs of physical activity leads to productivity, reducing absence of the staff in the work.

Given that offering physical activities have not been considered by the managers in Iranian organizations especially among the staff of Universities and on the other hand participating of staff in sport programs is not at the priority of managers planning, thus the purpose of this study this was to investigate 12 weeks physical activity the effect of resiliency and job performance of female employees of Islamic Azad University.

LITERATURE REVIEW

Resilience and Physical Activity

Few researches have been done in the field of physical activity and resiliency. The results obtained by Coom (2012) show that physical activity had no impact on resiliency of the staff. Also Wing, Louie, Chaw, Wang Aip (2015) investigated the relationship between

physical activity and mental health and self-efficacy and resilience in the Chinese young students. Results showed that promotion of physical activities that led to resilience could be suitable alternatives for improvement the mental health of adolescents.

While investigating the relationship between sporting, resilience, life quality and anxiety among artistic gymnasts, other types of athletes and non-athletes, Cevada et al. (2012) showed that a statistically significant relationship exists between resilience, anxiety and one of aspects of life quality (general health). In fact artistic gymnasts were proven to have higher resilience and better life-quality compared to non-athletes.

In this sense, in the context of improved resilience there exists a public belief stating that physical activity has several positive effects on depression, anxiety and mental disorders. In the meantime, many of previous studies have shown that there exists a statistically significant relationship between physical activity, and public welfare and health and psychological wellbeing (Strohle, 2009). In addition it has been turned out that physical activity may be able to provide an immune system against mental disorders, stress and other psychological harms (Coom, 2012). In this sense and based on the theory proposed by Fitt and Fitt (2003), sporting and regular physical activity create changes in the level of brain arousal and the individual's biochemical and psychological structures and ultimately, result in improvement and growth of social processes such as self-esteem, independence, empathy, reduction of aggression and anxiety. In addition, based on this theory, sporting and physical activity increases the resilience threshold against issues and problems. Previous studies have shown that increased physical activity results in improvement of physical and psychological health of people. In addition it may increase individuals' ability for opposing life challenges. In other words, it may improve individuals' resilience. (Coom, 2012). Therefore, it can be said that, physical

activity can be among factors that are effective on some features and individual virtues and leads to resiliency in them.

Productivity, Staff Absenteeism and Physical Activity

The research's showed that there is a significant relationship between physical activity and mental well-being and productivity of employees. Previous studies present strong causes regarding benefits of healthcare and sporting and or physical activity. In this regard, promotion of physical activity has been supported as a very important aspect of business organizational plans and results in improvement of health and efficiency of employees. Nowadays, more and more evidence are being presented regarding positive effects of physical activity on job performance and efficiency. Studies have shown that compared to unhealthy employees, healthy people have a higher capacity for performance of occupational tasks. In addition it has been turned out that physical activity programs have the potential to improve efficiency and job performance. Nonetheless, research has shown that inactive employees who adopt unhealthy life styles have lower efficiencies and have also more absences due to illnesses. In addition, they have lower occupational abilities compared to employees who adopt healthy life styles. Promotion of physical activity is considered as a crucial aspect of a supported commercial-organizational program that results in improvement of health and efficiency of employees. In this regard managers and planners who provide employees with physical activity programs, can result in various benefits for their organization and employees as well. These benefits include increased efficiency and job performance, effective costs, return on investments, reduction of illnesses, reduction of absences, inability and other intangible impacts including improvement of the brand's popularity. This is

confirmed by Rongen, Robroek, Lenthe, Burdorf, (2013), Brown, Gilson, Burton, Brown (2011), Pronk, Kottke, (2009), Golaszewski, Allen, Edington, (2008), Proper, Mechelen, (2007), Ackland, et al. (2005).

A group of studies has shown a positive correlation between productivity and physical activity for leisure time of employees (Curry, Beaudoin, Mackinnon, Gray, 2012).for example Wilson (2011) investigated 29 studies and concluded that workplace is a convenient location to create slight changes in the employees physical activity and this has benefits to managers and employers such as it leads to improve and increasing health and as a result increases employee productivity (Curry et al, 2012). Ben-Ner, Paulson, Koepp, Manohar, Levine (2012) have found significant relationship between health, physical activity and job performance (staff productivity) by investigating the impact of walking on the productivity and health of employees financial services of a firm in the state of Texas. Whitney (2016) studied relationship between physical activity and productivity and the absence of University staff of Colorado. The results showed that physical activity leads to increase productivity and reduce absenteeism of employees. Bernards, Proper, Hildebrandt (2007) have not found a relationship between productivity and perceived fitness of the staff. Gaoshan (2014) by studying relationship between work productivity and physical activity among full-time employees in Singapore showed that a healthy lifestyle is associated with higher productivity but sick leave of employees did not decrease with participate in physical activities. Studies have shown that staff who are correlated with their profession and employer their productivity is more because their motives are beyond individual factors. They are more focused and motivated than their colleagues.

METHODS

The method of the research was semi-experimental field and carried out having pre-test and post-test with two control and experimental group. The statistical population of the research consisted of 94 among whom, the female staff of Parand University of Tehran were randomly selected. To determine the sample of research after enrolling staff were selected randomly for experimental and control groups. Sample size was determined 54 as the sample according to the statistical power 0.95 and the significant level of 0.5 and the number of groups and also using software GPower. Then among 48 individual 24 people placed in experimental group (12 people for resiliency variable and 12 individuals for productivity and staff absence of staff variable) were substituted randomly in two groups. Then the experimental group participated in a course of 12 weeks' physical activity program, each week 3 days and each day 1 hour while the control group was not given any exercise or other programs. After completing a course of 3 months exercise two experimental and control groups invited to participate in a post-test to investigate experimental factor confirmation and both groups again completed the questionnaires of the research to measure dependent variables (resilience and productivity and Health) as post-test. Connor-Davidson, Resilience Scale (CD-RISC) was used for measuring resiliency variables. This scale has 25 items that are scored in a 5-point

Likert scale from 5 (always correct) to 1 (Completely wrong). Cronbach's alpha coefficient in the pre-test and post-test was 0.91 and 0.90, respectively. To determine validate of Connor and Davidson Inventory (2003), concurrent criterion validity method was used. Resiliency Wagnild Resiliency Scale (2009) along with Connor- Davidson (2003) inventory was given to experimental and control groups. The reliability of these questionnaires was 0.84. The productivity and public health scale of Hang (2008) was used for the productivity and staff Presence and absence of workplace. This questionnaire had nine values of 7 items. the 7 indicates always, 6 indicate most times, 5 half of time, 4 sometimes, 3 never, 2 at all, 1 don't know.. The Cronbach's alpha coefficient was in pre-test 0.91. and in post-test was 0.90. The concurrent criterion validity was used to measure validity of general health and productivity scale of Hang (2008). In this method Attendance at work Lerner and et al (2003) questionnaire was given to participants of experimental and control groups. The reliability was obtained 0.60. To analyze the data, descriptive and inferential statistics for participation of independent group's t test, Mann-Whitney U test for variables distance and was used for categorical variables.

RESULTS

Table 1, shows descriptive results of staff ages

Table 1. The age distribution of women staff according to experimental and control groups

feature										
age	experim ental	group	30to 35	36to4 0	41to4 5	Over4 5	30to 35	36to4 0	41to4 5	Ove r45
		1.relisiency	3	5	2	2	25	41.7	16.7	16.7
		2.productivit y and health	3	3	3	3	25	25	25	25
	control	1.relisiency	3	2	3	4	25	16.7	25	33.3
		2.productivity and health	3	5	2	2	25	41.7	16.7	16.7

As it can be seeing for the women staff of Azad University unit of Parand, the highest percentage 36 to 40 years in experimental group is (%41.7), the highest percentage 41 to 45 years is experimental group (%25), The highest percentage of people older than 45 years is experimental group (25%), the percent aged 30 to 35 years in groups 1, 2 and is (25%), The highest percentage 36 to 40 years is related to the

control group 2 (%41.7), The highest percentage 41 to 45 years for the control group 1 and 2 is (25%), The highest percentage of people older than 45 years for the control group 1 is (%33.3).

First hypothesis: 12 weeks of physical activity doesn't have any statistically significant impact on resilience of female employees of Islamic Azad University.

Table 2. Compare mean of resiliency in experimental and control groups

Variable		The difference between average Pre-test and post test	t	df	sig	Confidence interval of 95% for Mean differences	
Resiliency	experimental	0.71	- 3.94	22	0.001	low	high
	control	-0.81				0.42	1.36

The significance level obtained less than 0.05 ($t(22) = 3.94$, $p < 0.05$). Thus there is the assumption of means difference. These results are consistent with a %95 confidence interval for difference between two groups of experimental and control (1.36 and 0.42) which not includes difference mean equal to zero.

According to obtained results and by comparing the difference mean of pre-test and post-test in the experimental groups (0.71)

and control (-0.81) the score of post-test resiliency in the experiment group (3.02) higher than its pre-test (3.73). While in the control group of post-test (3.76) is less than pre-test (3.57) which finally led to the mean difference of pre-test and post-test in the experimental group would be more than control group. Thus according to meaningfulness the assumption of research it is clear that the mean of pre-test and post-test in the experimental group is more than control groups.

On this basis, the second hypothesis is rejected and instead, the research hypothesis is accepted. In other words, 12

weeks of physical activity has a statistically significant impact on increased efficiency.

Table 3. Comparing the mean of productivity in the experimental and control group

Variable		The difference between average Pre-test and post- test	t	df	sig	Confidence interval of 95% for Mean differences
Job productivity	experimental	0.49	4.64	22	0.001	0.35 0.94
	control	-0.16				

According to results of table 3, the significance level is less than 0.05, ($t(22) = -5.55$, $p < 0.05$) thus there is the assumption of means difference. These results are consistent with %95 confidence interval for difference between two groups of experimental and control (0.35 and 0.94) which not includes difference mean equal to zero

According to obtained results the post-test score in the experimental group (4.20) is more than pre-test (3.71), while post-test score in the control group (3.54) is less than pre-test (3.70) and by comparing mean difference of pre-test and post-test in the experimental groups (0.49) and control (-0.16). On this basis the second null hypothesis is rejected and instead, the research hypothesis is accepted. In other words, 12 weeks of physical activity has a significant statistical impact on increased efficiency.

Results of the Mann-Whitney test have shown that no significant difference existed between average absence rates of female employees of control and experimental groups in the posttest. On this basis, there was no initial difference between absence average rates of research groups. In addition, the results of the Mann-Whitney test in posttest phase indicated that no significant difference existed between average absence rates of female employees of control and experimental groups.

DISCUSSION

The result of this research showed that 12 weeks' physical activity leads to increase resiliency of women staff in the Islamic Azad University. Results of this study are inconsistent only with results of Coom (2012). Coom (2012) found that by studying the impact of physical activity on the resiliency during 16 weeks on the 200 staff of a commercial company in the New Zealand, Physical activity had no significant positive effect on resiliency staff. The inconsistency of mentioned study with present study maybe due to temporal and spatial conditions and other factors that could potentially be more effective and given that the value of resiliency change at the organizational settings and among their staff can be under another factors rather than physical activities. And on the other hand, probably the lack of good protective factors (good deal, good problem solving skills, positive self-concept, motivation and positive ethnic identity) in some organizations leads to attenuate the impact of physical activity on the subjects. In addition the resilient individuals may be affected by the stress which are strongly enough to put and submit to its psychological and physical disorders. In other words, stress will cause the employees be surrender to psychological and physical disorders and health factors such as physical activity not be effective on the improving the

resiliency of the staff, or it can be said that the resiliency variable is among mental factors that more time is needed to change it.

According to Stewart, Reid, Mangham (1997), the resiliency changes during time and it can be increased by protective factors (good deal, good problem solving skills, positive self-concept, motivation and positive ethnic identity). In addition to the resiliencies people may undergo by stress that are strongly enough and be submit in psychological and physical disorders. In fact, job stress leads that staff be surrounded by psychological and physical disorders and health factors such as physical activity be not effective on improving their resiliency. On the other hand, the current research is consistent with results of, Wing et al (2015), Cevada et al (2012), Trang (2011), and Martin et al (2011). They indicated in their study that physical activity has meaningful impact on improving resiliency so that Wing et al (2015), investigated the relationship between physical activity and mental health with mediating variable of efficiency and resiliency in 775 Chinese students. Their results of research showed that promote physical activity leads to resiliency. While explaining the results of this research, it can be pointed to the important role of physical activity on physical and psychological health of individuals including improvement of depression and mental disorders. In this sense, in the context of improved resilience there exists a public belief stating that physical activity has several positive effects on depression, anxiety and mental disorders. In the meantime, many of previous studies have shown that there exists a statistically significant relationship between physical activity, and public welfare and health and psychological wellbeing (Strohle, 2009). In addition it has been turned out that physical activity may be able to provide an immune system against mental disorders, stress and other psychological harms (Coom, 2012). In this sense and based on the theory proposed by

Fist and Fist (2003), sporting and regular physical activity create changes in the level of brain arousal and the individual's biochemical and psychological structures and ultimately, result in improvement and growth of social processes such as self-esteem, independence, empathy, reduction of aggression and anxiety. In addition, based on this theory, sporting and physical activity increases the resilience threshold against issues and problems. Previous studies have shown that increased physical activity results in improvement of physical and psychological health of people. In addition it may increase individuals' ability for opposing life challenges. In other words, it may improve individuals' resilience.

Research has shown that adolescents and adults can also learn resiliency (Maddi & Khoshaba, 2005). Lemay & ghazal (2001) and Lothar et al (2003) believe that there is no age limit for positive growth, resilience and adaptability and it is changeable for people according to position in life for people. Stewart, Reid and Mangham (1997) are believed that resiliency would be changed over time and it can be increased in the people through protective factors (luthans, 2002). Based on Vagnild's model of internal resilience, it is believed that people can improve their internal resilience through amplification of total resilience. Amplification of resilience includes: social supports, healthcare, balance in recreations and resting and responsibility. In general, most of evidence and views in this regard manifest that resilience is acquisitive and it can be created and promoted among people (Walsh, 2006).

Results of research showed that 12 weeks' physical activity has had significant impact on the productivity of female staff of Islamic Azad University. Results of the research are consistent with findings of Witney (2016), Ribra et al (2015), Justesen (2015), and Pronk et al (2004). The result of their study showed that in researches that Health and hygiene conditions as well as physical activity helps to increase employee productivity such

that Witney (2016) investigated the relationship between physical activity and productivity and absence of staff university of Colorado. The results showed that physical activity helps increase productivity and reduce absenteeism employees. Justesen 2015 in his study investigated the impact of physical activity on the productivity, general health, employee attendance and absence at work in Danish organizations. The results showed that physical activity reduces short-term absenteeism and increased employee productivity. Justesen 2015 investigated interactive communication between mental health and productivity based on physical activity and sitting time of 557 people University staff in Spain.

The results showed that there is a significant relationship between physical activity and mental well-being and productivity of employees. Previous studies present strong causes regarding benefits of healthcare and sporting and or physical activity. In this regard, promotion of physical activity has been supported as a very important aspect of business organizational plans and results in improvement of health and efficiency of employees. Nowadays, more and more evidence are being presented regarding positive effects of physical activity on job performance and efficiency. Studies have shown that compared to unhealthy employees, healthy people have a higher capacity for performance of occupational tasks. In addition it has been turned out that physical activity programs have the potential to improve efficiency and job performance. Nonetheless, research has shown that inactive employees who adopt unhealthy life styles have lower efficiencies and have also more absences due to illnesses. In addition, they have lower occupational abilities compared to employees who adopt healthy life styles. Promotion of physical activity is considered as a crucial aspect of a supported commercial-organizational program that results in improvement of health and efficiency of employees. In this regard managers and planners who provide

employees with physical activity programs, can result in various benefits for their organization and employees as well. These benefits include increased efficiency and job performance, effective costs, return on investments, reduction of illnesses, reduction of absences, inability and other intangible impacts including improvement of the brand's popularity.

This is confirmed by Rongen, Robroek, Lenthe, Burdorf, (2013), Brown, Gilson, Burton, Brown (2011), Pronk, Kottke, (2009), Golaszewski, Allen, Edington, (2008), Proper, Mechelen, (2007), Ackland, et al. (2005). Also these results are inconsistent with findings of Ben Ner et al (2012), Bernardz et al (2007). Ben Ner et al (2012) investigated the effect of walking over the treadmill during working on productivity and health of Staff financial services company in Texas. 12-month long trial study was conducted on employees. The results showed a positive relationship between physical activity and job performance (staff productivity). This discrepancy may be due to the type of provided physical activity or differences in study method. On the other hand, might be said that the difference to be due to determining factors affecting productivity and each of scientists and experts have identified factors as contributing factors and briefly factors such as continuous professional training for managers and employees, enhance motivation among employees to work better and longer, creation of suitable grounds for innovation and creativity is effective in managers and staff productivity. Results of the study indicates that 12 weeks' physical activity has not had meaningful impact in reducing the rate of absences in a past month. Results of this research are consistent with study of Goshen (2014), Lahiti et al (2010).

Results of the study conducted by Goshen (2014) indicated that Singaporean employees are only absent in their work if they need critical healthcare. Such situations cannot

be prevented through administration of physical activity.

The results of this research is inconsistent with the researches of Whitney (2016), Justesen (2015), Proper et al. (2005), Jakobson and Aldna (2001). Perhaps, the cause of the inconsistency is the rate and intensity of physical activity applied in the study. They conducted physical activity with high intense that could reduce the rate of absenteeism among staff but in the present study, physical activity provided in moderate intensity, that resulted in reduction in staff absence. As the findings of the study of Proper (2005) revealed that moderate physical activity (physical activity three days a week for 20 minutes) did not significantly associated with sick leave (due to illness) but vigorous physical activity (at least three days a week with high intensity) were significantly associated with less sick leave. Such that Pronk & Kottke, as well as, introduced witnesses that were indicating the positive impacts of vigorous physical activity in reducing sick leave. Results of research Witney (2016) also indicated that physical activity leads to increase productivity and reducing the absence of the staff. Justesen (2015), indicated that, physical activities reduces short-term absenteeism and increased employee productivity.

Pave et al. (2013) conducted a longitudinal study in Australia and indicated that high intensity physical activity is a suitable immunity factor against depression and or cardiovascular risks. In addition, Susan (2009; 2010) also conducted a longitudinal study and indicated that risk factors in cardiovascular diseases are significantly related to intensity of exercises. In other words trying to improve physical readiness through high intensity exercises prevents occurrence of cardiovascular illnesses and resultantly the rates of death will be decreased while a higher level of health is promoted. Therefore, with respect to the theory proposed by Wilson et al. (2011), results of health improvement related to physical activity

interventions may be followed by reduction of rates of sick leave. On the other hand, difference in obtained results may be due to difference in work culture between advanced and developing countries. In advanced countries employees are worried about losing their jobs and are willing to be present at work even if they are sick. By the help of such programs, employees try to keep their physical and psychological health in order to reduce their absences (Jones, 2010; Justesen 2015). This is while such a culture is not seen in developing countries including Iran.

CONCLUSION

Results of this research have shown that physical activity has a statistically significant and positive impact on employees' resilience and efficiency. However it was turned out that physical activity has no statistically significant impact on reduction of absences. Considering that human resources are the most important and valuable resources in an organization and considering that improvement of resilience can provide employees with great help in enduring psychological and mental stresses, therefore a very important organizational program may be providing health related programs in the shape of physical activity and sporting. In this regard, improvement of employees' physical and mental health may result in improved job performance and efficiency among them. This ultimately leads to improvement of organizations' overall development and efficiency. Considering this content, managers of organizations, specifically the managers of human resource domains are recommended to provide all the necessary contexts that may result in improvement of employees' resilience and efficiency. In this regard, female employees have several restrictions for performance of physical activities and managers can provide them with suitable opportunities for taking part in such programs. This is because improvement of employees'

mental and physical strength results in improved job efficiency. According to the results obtained by the present study, organizations and managers are recommended to conduct more generalizable and deployed studies regarding reduction of sick leaves and employee absences due to illnesses. The point of interest in the present study is that it shows the positive effects of physical activity on employees in organizations. Research studies conducted by the World Health Organization show that lack of activity among employees increases the risk of many chronic diseases and reduce the overall health of employees. On this basis, the lower the level of health of employees in their work environment, the employees' job performance and efficiency would be lower.

Recommendations for Future Studies

Considering the importance of human resources in organizations and with respect to increased level of physical and mental stresses among employees, researchers have tried to conduct studies in order to help with employees' health and hygiene as well as improvement of efficiency of human resources. Considering this content, future researchers are recommended to conduct similar studies on both male and female employees in order to find the effects of other types of physical activity on resilience,

efficiency and reduction of absences and compare their results with the results of the present study. These studies must also be conducted on high, middle and executive managers who are considered as part of human resources. Results of these researches may be considered as an effective solution for convincing managers and employees for participation in physical activity programs. Researchers can make a simultaneous use of inventories and interviews in their posttests and pretests in order to be able to overcome the limitations of inventories. In addition, conducting interviews is a suitable guarantee for more precise and suitable responses.

Limitations of the Study

One of the most important limitations of the present study was the reluctance of organizations, firms and universities in support of the study. Lack of existence of sporting facilities in certain organizations, lack of suitable time schedules for participation of employees in physical activity sessions, delaying the process of work in organizations and dissatisfaction of customers as a result of absence of employees are some of the reasons why the research didn't include many of existing organizations. Another limitation of this study was mere use of inventories in posttests and pretests instead of holding interviews with subjects.

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